IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application. No.	:	10/609,079	Confirmation No. 7575
Appellant	:	Timothy J. Parker et al.	
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Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Dear Sir:

Appellant submits, the following Appeal Brief pursuant to 37 C.F.R. § 41.37 for consideration by the Board of Patent Appeals and Interferences concurrently with an amendment filed under 37 C.F.R. §41.33(b). Please charge any additional fees or credit any overpayment to our deposit Account No.02-2666. A duplicate copy of the Fee Transmittal is enclosed for this purpose.

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I. STATEMENT OF REAL PARTY IN INTEREST{ XE "REAL PARTY IN INTEREST" }

The real party in interest is the assignee, Nortel Networks Limited.

II. STATEMENT OF RELATED CASES{ XE "RELATED APPEALS AND INTERFERENCES" }

There are no related cases, appeals or interferences known to Appellant, Appellant's legal representative, or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. JURISDICTIONAL STATEMENT{ XE "STATUS OF CLAIMS" }

Appellant believes that the Board has jurisdiction to consider this appeal since the issues in dispute are based on an improper rejection of the subject application under 35 U.S.C. §§ 102 and 103. A Notice of Appeal was filed on June 20, 2008 and a one-month extension of time under 37 C.F.R. §1.136(a) is filed concurrently herewith.

IV. STATUS OF AMENDMENTS{ XE "STATUS OF AMENDMENTS" }

On November 28, 2007, Appellant filed a response to an Office Action dated June 28, 2007. The Examiner issued a Final Office Action on February 20, 2008. On June 20, 2008, Appellant filed a Notice of Appeal in response to the Final Office Action. No amendments have been filed subsequent to receipt of the Final Office Action and the subject application remains under appeal. An amendment in accordance with 37 C.F.R. §41.33(b) is filed concurrently herewith.

V. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL{ XE "GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL" }

1. Claims 1 and 11 stand rejected under 35 U.S.C. §102(e) as being anticipated by Elkayam (U.S. Patent Application No. 2003/0099076 A1);
2. Claims 2, 12 and 26 stand rejected under 35 U.S.C. §102(e) as being anticipated by Elkayam;

3. Claims 15, 16 and 18 and rejected under 35 U.S.C. §102(e) as being anticipated by Elkayam; and

4. Claim 25, 27-28 and 32-33 stand rejected under 35 U.S.C. §102(e) as being anticipated by Elkayam.

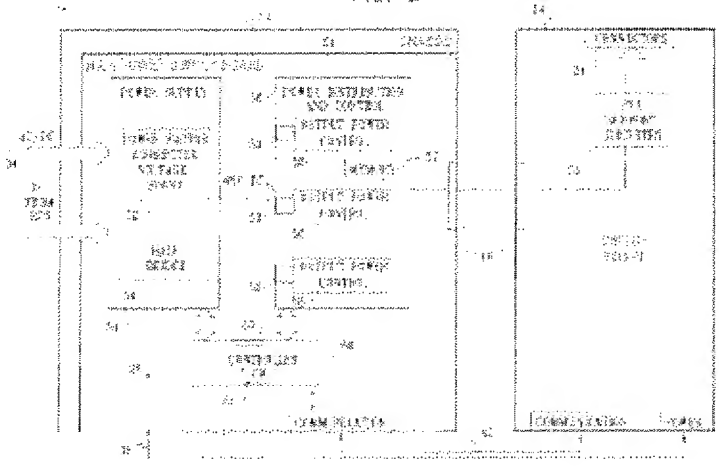
Hence, claims 1-3, 11-12, 15-16, 18-19, 21-23, 25-28 and 32-33 of the present application are pending. Claims 4-10, 13-14, 17, 20, 24, 29-31 and 34 are withdrawn. Claims 19 and 21-23 have been cancelled without prejudice and Appellant reserves the right to add and re-prosecute these claims at a later date. Appellant hereby appeals the rejection of claims 1-3, 11-12, 15-16, 25-28 and 32-33.

VI. STATEMENT OF FACTS { XE "SUMMARY OF CLAIMED SUBJECT MATTER" }

1. MATERIAL FACTS RELEVANT TO THE APPEAL:

In rejecting claims 1-2, 11-12, 15, 18, 25-28 and 32-33 under 35 U.S.C. §102(e), the Examiner cites Elkayam (U.S. Patent Application No. 2003/0099076 A1). *See page 3 of the Final Office Action.* Elkayam describes an Ethernet switch (26) that comprises a Power over LAN module (12) and an Ethernet switch board (14) as shown in FIG. 2 below. *See paragraph [0069], lines 1-4; FIGs. 1-2 of Elkayam.*

FIG. 2



Herein, the Power over LAN module (12) is implemented to provide regulated DC power for switch board (14). *See paragraph [0071], lines 1-2; FIGs. 1-2 of Elkayam.* The Power over LAN module (12) is referenced as a self-contained Power over LAN system such as a PD-IM-7024 module by PowerDsine Ltd. *See paragraph [0071], lines 15-16 of Elkayam.*

More specifically, as above in FIG. 2, components of module (12) are attached to a module chassis (11). *See paragraph [0071], lines 8-10; FIGs. 1-2 of Elkayam.* These components include a power supply (50), power distribution and control circuitry (56) and connector (40). The power supply (50) receives AC power from line connector (34) and/or DC power from a DC input, and generates regulated DC power such as 12 volts (V) DC and 48V DC. *See paragraph [0073], lines 3-7; FIG. 2 of Elkayam.* The power distribution and control circuitry (56) receives the regulated DC power and outputs the DC power over the connector (40) to the Ethernet switch board (14). *See paragraph [0075], lines 1-3; FIG. 2 of Elkayam.* The Ethernet switch board (14) features power over LAN support circuitry (55). *See paragraph [0075], lines 3-4; FIG. 2 of Elkayam.* The power over LAN support circuitry (55) receives the regulated DC power, such as 48V DC, and provides the same to connector (24) so that each cable (32) conveys power. *See paragraph [0075], lines 4-7; FIGs. 1-2 of Elkayam.*

The teachings of Elkayam are directed to the application of power levels compliant with IEEE 802.3af, namely Power Over Ethernet (PoE) power levels, through the use of an on-board power supply (50), power distribution and control circuitry (56) and power over LAN support circuitry (55), all of which are separately mounted on multiple boards. A similar technique is described in the General Background section of the subject application. As a result, the switching device (26) of Elkayam would likely suffer from similar problems: unacceptable costs to deploy and maintain such power supply systems and unacceptable delays power supply delays.

One primary difference between the claimed invention and the teachings of Elkayam is that the claims are directed to the implementation of PoE functionality within the connector module itself. The "connector module" is a component mounted to a circuit board. *See paragraph [0057] of the subject application.* The connector module, also referred to in the specification as the "Ethernet jack module 230," is embedded with PoE components. *See paragraph [0022&0025] of the subject application.*

2. INDEPENDENT CLAIMS 1, 15 AND 25:

Independent claim 1 recites, "[a] connector module (paragraph [0021], lines 7-8; paragraph [0022], line 2; FIGs. 1-2) being a component mounted on a circuit board (paragraph [0021], lines 5-8; paragraph [0057], lines 3-4; FIGs. 2 and 8), comprising:

at least one jack (paragraph [0022], line 2; paragraph [0023], line 2; FIGs. 1-2) adapted for coupling to a link (paragraph [0022], lines 4-9; FIGs. 2 & 8); and

circuitry (paragraph [0026], lines 1-3; FIGs. 3-5 & 7) coupled to the jack (paragraph [0026], lines 1-2 & 4-8; paragraph [0046], lines 1-4; FIGs. 3-5 & 7) and embedded into the connector module (paragraph [0025], lines 2-3; FIGs. 3-5 & 7), the circuitry configured to perform Power-over-Ethernet (PoE) operations (paragraph [0022], lines 2-3; paragraph [0025], lines 2-3; paragraph [0026], lines 1-4; FIGs. 1-3) by supplying power through the jack (paragraph [0030], lines 1-5; paragraph [0046], lines 1-10; FIGs. 3-7)."

Independent claim 15 recites, "[a] connector module (paragraph [0021], lines 7-8; paragraph [0022], line 2; FIGs. 1-2) being a component mounted on a circuit board (paragraph [0021], lines 5-8; paragraph [0057], lines 3-4; FIGs. 2 and 8) placed in a switching device (paragraph [0021], lines 2-8; FIGs. 1-2), comprising:

a plurality of Ethernet jacks positioned along a side of the switching device (paragraph [0022], lines 4-5; paragraph [0023], lines 1-4; FIGs. 1-2 & 8), each adapted for coupling to a link (paragraph [0022], lines 4-9; FIGs. 2 & 8); and

circuitry (paragraph [0026], lines 1-3; FIGs. 3-5 & 7) embedded within the component (paragraph [0025], lines 2-3; FIGs. 3-5 & 7), coupled to the plurality of Ethernet jacks (paragraph [0026], lines 1-2 & 4-8; paragraph [0046], lines 1-4; FIGs. 3-5 & 7), to perform Power-over-Ethernet (PoE) operations (paragraph [0022], lines 2-3; paragraph [0025], lines 2-3; paragraph [0026], lines 1-4; FIGs. 1-3) by supplying power through each of the plurality of Ethernet jacks (paragraph [0030], lines 1-5; paragraph [0046], lines 1-10; FIGs. 3-7), the circuitry comprises a filtering circuitry and a PoE circuit (paragraph [0052], lines 1-2; paragraph [0026], lines 1-3; FIGs. 3-7), the PoE circuit to vary the amount of power supplied over any of the plurality of Ethernet jacks (paragraph

[0027], lines 1-3 & 8; paragraph [0030], lines 1-5; paragraph [0031], lines 3-8; FIGs. 3-7)."

Independent claim 25 recites, "[a] switching device (paragraph [0019], lines 1-3; FIGs. 1-2) including a connector module being a component mounted on a circuit board (paragraph [0021], lines 5-8; paragraph [0057], lines 3-4; FIGs. 2 and 8) implemented within the switching device (paragraph [0021], lines 2-6; FIGs. 2 and 8), the switching device comprising:

a housing (paragraph [0021], line 3; FIGs. 2 and 8); and

a connector module being a component mounted on a circuit board (paragraph [0021], lines 5-8; paragraph [0057], lines 3-4; FIGs. 2 and 8), the component including at least one jack formed in the housing (paragraph [0022], lines 2-5; FIGs. 1-2) and power-over-Ethernet (PoE) circuitry embedded within the component (paragraph [0025], lines 2-3; paragraph [0026], lines 2-3; FIGs. 3-5 & 7) and directly coupled to the at least one jack (paragraph [0026], lines 2-8; FIGs. 3-5 & 7).

3. DEPENDENT CLAIMS 2-3, 12, 16, 18, 26-28 AND 32-33:

Dependent claim 2 recites, "[t]he connector module of claim 1 being an Ethernet jack module with the embedded circuitry with PoE functionality and the jack being an Ethernet jack." *See paragraph [0022], lines 1-3; paragraph [0023], lines 1-2; FIGs. 1-2 of Elkayam.*

Dependent claim 3 recites, "[t]he connector module of claim 1, wherein the Ethernet jack is either an RJ-45 jack or an RJ-21 jack." *See paragraph [0023], lines 1-7; FIGs. 1-2 of Elkayam.*

Dependent claim 12 recites, "[t]he connector module of claim 2 being adapted within a switching device to receive direct current (DC) voltage from an externally located power supply (paragraph [0034], lines 5-8; FIGs. 3-5 & 7) and, under control of the circuitry embedded within the connector module, to transmit power from the at least one Ethernet jack of the connector module." *See paragraph [0026], lines 1-3; paragraph [0030], lines 1-5; paragraph [0032], lines 1-3; FIGs. 3-5 & 7 of Elkayam.*

Dependent claim 16 recites, "[t]he connector module of claim 15, wherein the circuitry further comprises a plurality of light emitting diodes (paragraph [0022], lines 2-4; FIGs. 3-5 & 7) each corresponding to one of the plurality of Ethernet jacks (paragraph [0026], lines 4-8; paragraph [0046], lines 8-10; paragraph [0050], lines 1-4; FIGs. 3-5 & 7), each light emitting diode operating in a first state when the link is disconnected from its corresponding Ethernet jack (paragraph [0050], lines 9-12) and in a second state when the link is coupled to its corresponding Ethernet jack." *See paragraph [0050], lines 12-14 of Elkayam.*

Dependent claim 18 recites, "[t]he connector module of claim 15, wherein the PoE circuit of the circuitry is coupled to the filtering circuitry." *See paragraph [0052], lines 1-2 of Elkayam.*

Dependent claim 26 recites, "[t]he switching device of claim 25 wherein the connector module is an Ethernet jack module." *See paragraph [0022], lines 1-2 of Elkayam.*

Dependent claim 27 recites, "[t]he switching device of claim 25, wherein the housing further includes an output to supply power to a first connector module neighboring the connector module." *See paragraph [0043], lines 1-5 of Elkayam.*

Dependent claim 28 recites, "[t]he switching device of claim 27, wherein the housing further includes an input to receive power from a second connector module neighboring the connector module so as to form a cascading connection between the first neighboring connector module and the second neighboring connector module." *See paragraph [0043], lines 4-5 of Elkayam.*

Dependent claim 32 recites, "[t]he switching device of claim 25, wherein the housing comprises (i) a first input adapted to receive power from a first neighboring connector module and (ii) a first output adapted to provide power to a second neighboring connector module." *See paragraph [0043], lines 1-5 of Elkayam.*

Dependent claim 33 recites, "[t]he switching device of claim 32, wherein the housing further comprises a cascade serial communication interface adapted for coupling

to a serial communication interface of the first neighboring connector module. See *paragraph [0037], lines 1-4 of* Elkayam.

VII. ARGUMENTS{ XE "ARGUMENT" }

In the Office Action, claims 1-2, 11-12, 15, 18, 25-28 and 32-33 are rejected under 35 U.S.C. §102(e). Claim 3, 19 and 21-23 are rejected under 35 U.S.C. §103(a). Certain grounds for traversing the outstanding rejections are outlined and reversal of each of the outstanding rejections by the Board is respectfully requested.

A. §102(e) Rejection of Claims 1 and 11

Claims 1-2, 11-12, 15, 18, 25-28 and 32-33 were rejected under 35 U.S.C. §102(e) as being anticipated by Elkayam (U.S. Patent Application No. 2003/0099076 A1). In particular, with respect to claims 1 and 11, Appellant respectfully submits that a *prima facie* case of anticipation cannot be established.

As the Board is aware, to anticipate a claim, the reference must teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Vergegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the...claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989). Appellant respectfully submits that a *prima facie* case of anticipation has not been established by the Examiner because all of the limitations set forth in claims 1 and 11 are not described in Elkayam.

Elkayam is directed to a daughter card/motherboard implementation. The Examiner has interpreted a module chassis (11) of a Power over LAN module (12) as the claimed connector module. *See page 4 of the Final Office Action dated February 20, 2008.* Appellant believes that this interpretation is improper since the module chassis (11) is not a "component mounted on a circuit board (read on by switch board 14)" as contended by the Examiner. Claim 1 is directed to a connector module, namely a component that can be mounted on a circuit board, which comprises at least one jack and

circuitry that is embedded into the connector module and performs Power over Ethernet (PoE) operations. The module chassis (11) does not a connector module as claimed.

Appellant acknowledges that the term "connector module" is explicitly defined within the preamble of claim 1 as "being a component mounted to a circuit board." This definition is consistent with the definition set forth in the specification. *See paragraph [0057] of the subject application.* However, Appellant disagree that this definition does not have patentable weight.

In accordance with MPEP §2111.02, "[a]ny terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation." See *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989); *Pac-Tec Inc. v. Amerace Corp.*, 903 F.2d 796, 801, 14 USPQ2d 1871, 1876 (Fed. Cir. 1990). The "component" architecture of the connector module is a structural limitation, and thus, the connector module, which is also recited within the body of the claim, should be considered as a component that can be mounted on a circuit board.

Additionally, Appellant respectfully submits that dependent claim 11 recites the connector module as being "implemented on the circuit board within a switching device including a housing substantially enclosing the connector module with at least the jack accessible from a side of the housing for coupling to the link." This limitation cannot be overlooked as directly contradicting the Examiner's improper interpretation of the connector module.

In accordance with the interpretation of the "connector module" that is set forth in the claims and supported by the specification of the subject application, Appellant respectfully requests the Board to reverse the outstanding §102(e) rejection as applied to claims 1 and 11 because Elkayam clearly does not describe a component (connector module) with the embedded PoE functionality as claimed.

B. §102(e) Rejection of Claims 2-3, 12 and 26

Claims 2, 12 and 26 were rejected under 35 U.S.C. §102(e) as being anticipated by Elkayam (U.S. Patent Application No. 2003/0099076 A1). Herein, Appellant respectfully submits that a *prima facie* case of anticipation cannot be established.

For instance, with respect to dependent claims 2 and 26, these claims specifically include the limitation that the connection module is an Ethernet jack module. Hence, the embedded circuitry is circuitry within the Ethernet jack module itself. In contrast, Elkayam teaches the implementation of a Power over LAN module (12), which is represented as a system including a chassis (11) and main power supply board (51). One example of such a system is PowerDsine's PD-IM-7024™ Power over LAN module, which neither constitutes an Ethernet jack module (claims 2, 26) nor constitutes any particular type of jack (claim 3) such as an RJ-45 jack or an RJ-21 jack.

Hence, Appellant respectfully requests the Board to reverse the outstanding §102(e) rejection as applied to claims 2 and 26. Claims 3 and 12 depends on claim 2, and thus, these claims are allowable based on the allowability of claim 2.

C. §102(e) Rejection of Claims 15-16 and 18

Claims 15-16 and 18 were rejected under 35 U.S.C. §102(e) as being anticipated by Elkayam. Appellant respectfully submits that a *prima facie* case of anticipation has not been established because Elkayam fails to teach each and every limitations set forth in these claims. As an example, Elkayam does not describe the claimed element that the connection module, structurally defined within the preamble claim 15 as a component mounted to a circuit board that comprises "circuitry embedded within the component...to perform Power-over-Ethernet (PoE) operations." In the specification, the "connection module" is also referred to as the "Ethernet jack module 230," which is embedded with PoE components. *See paragraph [0022&0025] of the subject application.*

In contrast, as previously stated, Elkayam is directed to a daughter card/motherboard implementation and does not describe the connector module (component mounted on circuit board) with embedded circuitry to perform PoE operations as claimed. The daughter card (Ethernet switch board 14) of Elkayam features Ethernet connectors (24) that clearly are not embedded with circuitry that performs PoE operations. Moreover, the module chassis (11) cannot be construed as the claimed connector module since it cannot be construed as a component mounted on a circuit board as claimed.

In conclusion, since Elkayam does not describe a component (connector module) with embedded circuitry to perform PoE operations as claimed, Appellant respectfully requests that the Board to reverse the outstanding §102(e) rejection of independent claim 15 as well as claims 16 and 18 dependent thereon.

D. §102(e) Rejection of Claim 25, 27-28 and 32-33

Claim 25, 27-28 and 32-33 were rejected under 35 U.S.C. §102(e) as being anticipated by Elkayam. Appellant respectfully submits that a *prima facie* case of anticipation has not been established because Elkayam fails to teach all of the limitations set forth in these claims.

For instance, with respect to independent claim 25, Elkayam does not describe the claimed elements of a connection module, which is an explicit limitations within the body of the claim. The connection module is limited as being a "component mounted on a circuit board, the component including at least one jack formed in the housing and power-over-Ethernet (PoE) circuitry embedded within the component and directly coupled to the at least one jack."

In contrast, Elkayam is directed to a daughter card/motherboard implementation and does not describe the connector module with PoE circuitry embedded within the component that is mounted on a circuit board and includes at least one jack. Instead, Elkayam teaches the mounting of sub-circuits (58) on a main power supply board (51) that, accompanied by the operations of the power-over-LAN support circuitry (55), perform PoE functions, where such circuitry is separate from and not embedded within the connector (24). *See FIG. 2 of Elkayam and paragraph [0076].*

In conclusion, since Elkayam does not describe a connection module that is mounted on a circuit board and includes at least one jack and PoE circuitry embedded within the component itself, Appellant respectfully requests that the Board reverse the outstanding §102(e) rejection as applied to independent claim 25 as well as claims 27-28 and 32-33 dependent thereon.

VIII. CONCLUSION{ XE "CONCLUSION" }

Appellant respectfully requests that the Board enter a decision overturning the Examiner's rejection of all pending claims, and holding that the claims satisfy the requirements of 35 U.S.C. §103.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: October 10, 2008

/William W. Schaal/
William W. Schaal
Reg. No. 39,018

1279 Oakmead Parkway
Sunnyvale, CA 94085-4040

IX. CLAIM APPENDIX{ XE "APPENDIX" }

The claims of the present application which are involved in this appeal are as follows:

1. (Previously Presented) A connector module being a component mounted on a circuit board, comprising:

at least one jack adapted for coupling to a link; and

circuitry coupled to the jack and embedded into the connector module, the circuitry configured to perform Power-over-Ethernet (PoE) operations by supplying power through the jack.

2. (Previously Presented) The connector module of claim 1 being an Ethernet jack module with the embedded circuitry with PoE functionality and the jack being an Ethernet jack.

3. (Original) The connector module of claim 1, wherein the Ethernet jack is either an RJ-45 jack or an RJ-21 jack.

4. (Withdrawn) The connector module of claim 1, wherein the circuitry comprises:

a FET switch;

an AC disconnect component coupled to the FET switch;

magnetics coupled to the AC disconnect component; and

a PoE circuit coupled to the FET switch, the PoE circuit to vary the amount of power supplied over the jack by adjusting current supplied to the FET switch.

5. (Withdrawn) The connector module of claim 4, wherein the PoE circuit is coupled to the AC disconnect component in order to discontinue power supplied to the jack when the link is disconnected from the jack.

6. (Withdrawn) The connector module of claim 4, wherein the AC disconnect is coupled to (i) center taps of magnetics and (ii) a power supply to receive a direct current (DC) supply voltage therefrom.

7. (Withdrawn) The connector module of claim 4, wherein the circuitry further comprises one or more light emitting diodes being in a first state when the link is disconnected from the jack and in a second state when the link is coupled to the jack.

8. (Withdrawn) The connector module of claim 5, wherein the one or more light emitting diodes of the circuitry being in a third state upon detecting a fault in an electrical connection established by the link when the link is coupled to the jack.

9. (Withdrawn) The connector module of claim 4, wherein the one or more light emitting diodes of the circuitry being in a blinking state during communications between the connector module and a peripheral device and in a no light state when the communications have stopped.

10. (Withdrawn) The connector module of claim 4, wherein the magnetics comprises a pair of transformers each having a center tap coupled to the AC disconnect.

11. (Previously Presented) The connector module of claim 1 being implemented on the circuit board within a switching device including a housing substantially enclosing the connector module with at least the jack accessible from a side of the housing for coupling to the link.

12. (Previously Presented) The connector module of claim 2 being adapted within a switching device to receive direct current (DC) voltage from an externally located power supply and, under control of the circuitry embedded within the connector module, to transmit power from the at least one Ethernet jack of the connector module.

13. (Withdrawn) The connector module of claim 11, wherein the circuitry further comprises at least one opto-coupler to isolate a common voltage and digital ground for one or more control signals supported by the circuitry.

14. (Withdrawn) The connector module of claim 1, wherein the circuitry comprises

a plurality of PoE functional blocks each including a light emitting diode, an Ethernet jack and magnetics; and

at least one shift register coupled to the light emitting diodes for each of the PoE functional blocks, the at least one shift register to drive the light emitting diodes.

15. (Previously Presented) A connector module being a component mounted on a circuit board placed in a switching device, comprising:

a plurality of Ethernet jacks positioned along a side of the switching device, each adapted for coupling to a link; and

circuitry embedded within the component, coupled to the plurality of Ethernet jacks, to perform Power-over-Ethernet (PoE) operations by supplying power through each of the plurality of Ethernet jacks, the circuitry comprises a filtering circuitry and a PoE circuit, the PoE circuit to vary the amount of power supplied over any of the plurality of Ethernet jacks.

16. (Original) The connector module of claim 15, wherein the circuitry further comprises a plurality of light emitting diodes each corresponding to one of the plurality of Ethernet jacks, each light emitting diode operating in a first state when the link is disconnected from its corresponding Ethernet jack and in a second state when the link is coupled to its corresponding Ethernet jack.

17. (Withdrawn) The connector module of claim 15, wherein the circuitry further comprises an AC disconnect component coupled to the PoE circuit and the magnetics, the AC disconnect to discontinue a supply of power to one of the plurality of Ethernet jacks when the jack is decoupled from a link and to provide an indication that may alter a state of a light emitting diode corresponding to the one of the plurality of Ethernet jacks.

18. (Previously Amended) The connector module of claim 15, wherein the PoE circuit of the circuitry is coupled to the filtering circuitry.

19. (Previously Presented) A Power-Over-Ethernet (PoE) circuit adapted for controlling power supplied over a plurality of Ethernet jacks and embedded in a component having the plurality of Ethernet jacks, the PoE circuit comprising:

a plurality of voltage sensing contacts each to detect whether a powered device is coupled to an Ethernet jack of the plurality of Ethernet jacks corresponding to the voltage sensing contact and to prioritize the plurality of Ethernet jacks;

a first contact to receive a predetermined direct current (DC) voltage from a power supply;

a first serial interface to receive control information for managing power transmissions by the PoE circuit embedded in the component including the plurality of Ethernet jacks; and

a second serial interface adapted for coupling to a first serial interface of a neighboring PoE circuit.

20. (Withdrawn) The PoE circuit of claim 19, further comprising a second contact to receive a signal from an alternating current (AC) disconnect .

21. (Original) The PoE circuit of claim 19, further comprising a plurality of contacts each adapted for coupling to one of a plurality of switches for controlling an amount of current flowing into a powered device coupled to one of the plurality of Ethernet jacks, an interruption of current flow into the powered device causes no power to be transferred to the powered device from the one of the plurality of Ethernet jacks.

22. (Original) The PoE circuit of claim 19, further comprising a second contact to receive a logic signal from the power supply to indicate whether the power supply is working properly.

23. (Original) The PoE circuit of claim 19, further comprising a second contact that, when placed in a predetermined logic state, indicates to the neighboring PoE circuit that the power supply is working properly.

24. (Withdrawn) A method comprising:

receiving an isolated supply voltage by a connector module that comprises a Power-over-Ethernet (PoE) circuit and a plurality of jacks;

internally regulating an isolated internal voltage being less than the isolated supply voltage within the connector module;

performing PoE operations within the connector module to manage power transmissions by the PoE circuit; and

supplying power through at least one of the plurality of jacks to a neighboring connector module.

25. (Previously Presented) A switching device including a connector module being a component mounted on a circuit board implemented within the switching device, the switching device comprising:

a housing; and

a connector module being a component mounted on a circuit board, the component including at least one jack formed in the housing and power-over-Ethernet (PoE) circuitry embedded within the component and directly coupled to the at least one jack.

26. (Previously Presented) The switching device of claim 25 wherein the connector module is an Ethernet jack module.

27. (Previously Presented) The switching device of claim 25, wherein the housing further includes an output to supply power to a first connector module neighboring the connector module.

28. (Previously Presented) The switching device of claim 27, wherein the housing further includes an input to receive power from a second connector module neighboring the connector module so as to form a cascading connection between the first neighboring connector module and the second neighboring connector module.

29. (Withdrawn) The connector module of claim 25, wherein the PoE circuitry includes (i) a switch and (ii) a PoE circuit adapted to vary the amount of power supplied over the at least one jack by adjusting current supplied to the switch.

30. (Withdrawn) The connector module of claim 29, wherein the PoE circuitry further comprises an alternating current (AC) disconnect component coupled to the switch, the AC disconnect component to disconnect power supplied to the at least one jack when a link is disconnected from the at least one jack.

31. (Withdrawn) The connector module of claim 30, wherein the PoE circuitry further comprises magnetics including a pair of transformers each having a center tap coupled to the AC disconnect component.

32. (Previously Presented) The switching device of claim 25, wherein the housing comprises (i) a first input adapted to receive power from a first neighboring connector module and (ii) a first output adapted to provide power to a second neighboring connector module.

33. (Previously Presented) The switching device of claim 32, wherein the housing further comprises a cascade serial communication interface adapted for coupling to a serial communication interface of the first neighboring connector module.

34. (Withdrawn) The connector module of claim 25, wherein the housing further comprises a connector enabling a connection directly to an isolated voltage source via a mating connector/cable assembly.

X. EVIDENCE APPENDIX

None.

XI. RELATED PROCEEDINGS APPENDIX

None.